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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,807	09/11/2003	Atsuo Omaru	09792909-5671	7066

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EXAMINER

WALKER, KEITH D

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 07/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/660,807	Applicant(s) OMARU, ATSUO	
	Examiner Keith Walker	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-22 is/are rejected.
- 7) ☒ Claim(s) 12 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/28/05 has been entered.

Claims 1-10 are cancelled and claims 11-22 are pending examination.

Information Disclosure Statement

An Information Disclosure Statement (IDS) has not been filed as of the mailing of this action.

Claim Objections

Claim 12 objected to because of the following informalities: The element "[n]" in line 4 is unknown. Appropriate correction is required.

Claim 15 objected to because of the following informalities: The element "13i" in line 3 is unknown. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 11 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not appear to support the statement "...on top of each other up to a total of three or more layers."

Claims depending from claims rejected under 35 USC 112, first paragraph are also rejected for the same.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 14-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. These claims depend from cancelled claims. The claims are being interpreted to depend from the new independent claims 12 & 13 instead of claims 2 & 3.

Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The general formula does not have the variable "z", however has a mathematical number associated with it.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 11-18 & 21 are rejected under 35 U.S.C. 102(b) as being anticipated by WO/2001/084654 using US Publication 2003/0108795 (Tamura) as the English translation.

Tamura teaches a battery with a nonaqueous electrolyte containing an electrolyte salt solute, a cathode containing an active material and an anode ([0033-0042]). The anode includes a thin film layer of a metal that does not alloy with lithium, a thin film layer of metal that does alloy with lithium, a mixed layer composed of these metals between the thin film layers ([0007]); a thin film of hard carbon on the opposite surface of the metal that alloys with lithium than the metal that does not alloy with lithium ([0033]); and a thin film interlayer between the thin film of carbon and the metal that alloys with lithium ([0037-0040]). The use of metals that alloy with lithium for the negative electrode material is known ([0005]). The metal that alloys with lithium is a metal that forms a solid solution or intermetallic compound with lithium; examples include Sn, Ge, Al, In, Mg, Pb, Zn, Bi, and the like ([0017]). The metal that does not alloy with lithium ([0028]), the carbon ([0038]), and the interlayer ([0040]) are formed as thin films. The active materials for the positive electrode include lithium-containing

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transition metal oxides, such as LiCoO_2 , LiNiO_2 , and LiMnO_2 . The anode further contains a layer of carbon material and binder (polyvinylidene fluoride) ([0099]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO/2001/084654 using US Publication 2003/0108795 (Tamura) as the English translation in view of WO 00/57507 (Hagg).

The teachings of Tamura as discussed above are incorporated herein.

Tamura does not disclose an anode substrate that is a high molecular weight polymer.

Hagg discloses typical polymeric electrode substrates; exemplary polymers are fluorocarbon polymers, polyamides, polyaramides, polyaryl sulfones, polyaryl sulfides, polycarbonates, polyesters, and polyolefins. Other exemplary polymers are found in *Polymer Handbook* (incorporated by reference into the WIPO reference) and include cellulose triacetate (Pg. VIII/3). These substrate materials possess the lowest electrical

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resistivities, require a relatively low bonding temperature and short processing time. (Pg. 11, ll. 35- Pg. 12, ll. 31; Pg. 22, ll. 34-36). The polymers of Hagg have specific gravities ranging from 0.9 to around 2.0 g/cc (www.polymerweb.com).

Therefore, one of ordinary skill in the art at the time the invention was made would have used such polymers as taught by Hagg as the electrode substrate as taught by Tamura in order to provide the lowest electrical resistivities and require a relatively low bonding temperature and short processing time.

3. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO/2001/084654 using US Publication 2003/0108795 (Tamura) as the English translation.

The teachings of Tamura as discussed above are incorporated herein.

Tamura teaches the preparation of electrodes in which active material is deposited on a substrate, and then the substrate is cut into smaller pieces (Examples 1-7). One of ordinary skill in the art would have been familiar with wound cells at the time of invention and would have recognized that the coated electrode substrates and a separator could be formed into a wound assembly if the substrates were not cut after coating. Therefore, one of ordinary skill in the art at the time the invention was made to coil the coated substrates in the longitudinal direction with a separator in-between in order to produce a wound cell.

Response to Arguments

No arguments were presented after canceling Claims 1-10 and adding new Claims 11-22.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith Walker whose telephone number is 571-272-3458. The examiner can normally be reached on Mon. - Fri. 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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